TOP FY 2000
Project Narrative

South Carolina Department of Education

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Columbia, SC

PROJECT PURPOSE—REDUCING DISPARITIES:

This is a project intended for the Lifelong Learning and the Arts primary application area of the Technology Opportunities Program. This project has two purposes:

1. To provide computers, training and Internet service for families in seven rural, impoverished school districts in South Carolina so that they may access, from their homes, the state backbone network and the rich array of content provided there—the same as families in more affluent settings enjoy
2. To provide training for prison inmates to upgrade and maintain computers for the families and schools in these districts, and others, so that the inmates might have an opportunity for gainful employment after parole. The schools and parents may then obtain the computers that these inmates upgrade, at no cost.

Population to be served: Families of students in Allendale, Bamberg District 2, Clarendon District 1, Florence District 4, Jasper County, Lee County, and Marion District 3, the seven most impoverished and underachieving school districts in South Carolina will be served by this project. These districts have been designated as "impaired" by the South Carolina State Department of Education. An in-depth audit by an external consulting firm (The Masonboro Group Inc., 1999) led to the state assuming direct management of the Allendale School District in 1999. Conditions in Allendale are symptomatic of those in the other six districts to be served: low student achievement in all grade levels, extreme poverty and low tax base, high unemployment, geographic isolation, lack of parental involvement in their children's education and no access to information resources. The following descriptive statistics of the Allendale School District typifies the condition of these districts. These same statistics for the other six districts to be served by this project are contained in Appendix A.

Allendale

Students in Average Daily Membership (1998 – 99):	2,094
% Students eligible for free/reduced price lunch:	88.1%
Operating budget expenditures per pupil (1997 – 98):	$6,325
% Minority students (African-American (1998 – 99)):	94%
SAT Test (Verbal, 1998 – 99):	380
SAT Test (Math, 1998 – 99):	386
% County population living in rural areas:	62.4%
% Children aged 0 – 17 below poverty line:	49.1%
% Average annual unemployment (1999)	6.7%
% Parents with less than high school diploma	46.3%

Although South Carolina is one of only five states with all schools connected to the Internet via high speed dedicated circuits, there remains a chronic need for computers in classrooms, to take advantage of this network. Connectivity of schools to the state backbone network and the Internet has been greatly facilitated since the Universal Service Order of the

FCC (May 7, 1997), commonly known as the “e-rate”, was issued. Computers however, were not eligible for these discounts. Furthermore, the e-rate did nothing for individual family access to state resources or the Internet from their homes. Consequently, families living in poor rural areas are essentially cut off from these resources.

In it’s publication “Computer Use in the United States”, (Newburger, 1997) the U.S. Census Bureau concluded: ”More than one in three American households had computers, with 75.9% of these computers in households with yearly family incomes of $75,000 or more. While only 15.6% of households with incomes below $25,000 had a computer.” The study also found that only 24.2% of black children as opposed to 61.5% of Non-Hispanic white children had a computer at home. Children living in the South were also less likely to have a computer at home (43.6%) than those living elsewhere (52.9%).

Specific problems to be solved:

With this background, the problems to be addressed by this project are: How can we supply inexpensive or better yet, free computers and Internet access to families in these impoverished and geographically isolated communities so that they may have the same access to educational resources that students in affluent suburban communities have? Along with a computer must come training for the student and parents in how to use this tool and how to access the Internet to obtain educational information. Lastly, how will we determine the impact of this project on student achievement?

The solutions proposed here can be used as a model for application to other districts in South Carolina, and with little or no modification, to other states with similar populations.

INNOVATIVE SOLUTIONS:

South Carolina proposes an innovative, cost effective and easy to replicate framework of solutions to these problems.

1. Computers for families: As mentioned above, the families to be served live in abject poverty. It is unrealistic to expect that these families could purchase new computers and provide Internet service for themselves. After all, this is a major obstacle for these families nationwide. We propose to solicit computers coming out of service from state agencies, federal government installations, businesses and individuals across the state. These machines are usually not suitable for installation in classrooms or homes because they typically require significant upgrades. Many machines, which have been donated to schools, have come from businesses, which used them on local area networks. They usually have very little RAM memory, no CD-ROM drive, very small or no hard disk and no sound card. They also usually do not have a modem, having been installed on a local area network, they will instead have a network adapter, or no telecommunication interface at all.

   We propose to use state prison inmates to upgrade these machines with new components, which will be provided to the project with matching funds from the

State Department of Education. The South Carolina Department of Corrections has provided as part of the in-kind contribution toward this project, the upgrade facility, warehousing of donated computers, transportation of donated machines and inmate labor as well as supervision.

2. Training for parents: A most important component of this application is the establishment of a "Family Technology Learning Center" in each district to be served. The centers will be located in neighborhood schools and will be provided by the districts at no cost. These centers will host instructional sessions for parents, before they receive a computer, as well as training in basic computer literacy. We plan to provide one computer on long-term loan to each family, as long as that family has a child enrolled in the public schools. The instruction will be provided by the 13 Regional Technology Specialists located throughout the state and furnished as an in-kind contribution by the State Department of Education. Since many of the families are single-parent families, and the parent must work during the day, the instruction will be scheduled in the evenings. Parents will be shown how to connect the computer when they move it to the home, how to load software from back up CD-ROM, in case of a system crash or the software becoming corrupted, and how to access the Internet

   To simplify the process, the South Carolina Educational Television Network (SCETV) will furnish as part of their in-kind contribution to this project a CD-ROM containing Netscape Navigator, Internet Explorer, QuickTime, Real Player and custom Java applets. This CD-ROM will allow parents and students from home to access educational sites including SearchSCETV.org and other educational sites on the web. The commitment letter from South Carolina Educational Television is included with more details of the CD-ROM and further in-kind support for the proposed project. Parents will be shown how to load and use these software products.

3. Training for prison inmates: In order to upgrade donated computers to make them usable in a school and home environment, we propose to train ten (10) inmates to perform hardware maintenance and load operating system software. Another partner in this project, New Horizons Computer Learning Centers, will provide as part of their in-kind support, A+ hardware certification training for the inmates at 50% discount pricing for materials and on-site instruction. Once trained, the inmates will use new components (RAM memory, CD-ROM drives, sound cards, video adapter cards and modem cards) to refurbish donated computers for use by families in the participating school districts. Parts will be provided by in-kind funding from the S.C. Department of Education.

4. Internet access: Another partner in this project, Info Avenue, the vendor providing Internet access for state government through a competitively bid contract, has offered to provide an in-kind contribution of $10 toward 200 hours of Internet access for each family each month. This makes possible the provision of 200 hours of Internet access for $15 per month for each family participating in this project. This effectively reduces the cost of reliable Internet access to these geographically isolated areas and

contributes to the project's diffusion to other communities in South Carolina and in other states. Although it was tempting to propose use of “free” Internet points of presence springing up across the country, this option was discarded considering the fact that users of these service providers are deluged with advertising, which can occupy most of the screen area and bandwidth.

DIFFUSION POTENTIAL OF THIS PROJECT

The model proposed here can be easily generalized to other school districts in South Carolina and throughout the nation. Most of the districts in South Carolina are found in small rural areas of the state. Many of these districts are very poor, compared to districts in urban and suburban locales. Families in these areas share the same lack of resources and access to technology and communications as the districts to which they send their sons and daughters.

Certainly, the idea of businesses, industries and governmental entities donating used computers to schools is not new. The problem has been, and is, that these machines simply can not be used effectively “as is”—they must be upgraded to minimum standards of speed and capability for Internet access and classroom use. Classroom teachers and parents do not have the technical skills to upgrade computers, even if they knew what components were needed. This project, and other replications of it address this problem directly and very cost effectively.

The notion of using prison inmates to provide services to public schools has also been addressed in such efforts as wiring classrooms and reconditioning equipment (see “Project Feasibility” below). We propose to formalize this activity and use this resource on a larger scale. In order to do this effectively, prison inmates require more than informal and on-the-job training, which we have done. It is important from the Department of Corrections perspective to have inmates able to obtain gainful employment after parole. This project addresses this need directly by providing certification training, which benefits both inmates and the schools by enabling more rapid repair and upgrade of equipment. Unfortunately, there is no shortage of available labor pool in our prison system or that of any other state.

PROJECT FEASIBILITY—HOW DO WE KNOW IT WILL WORK

This project will span three (3) school years, beginning September 2000. The foundation for this undertaking has already been laid. The South Carolina Department of Education and the South Carolina Department of Corrections have been exploring the potential of using prison inmates to upgrade computer equipment for use in classrooms. The approach has proven feasible, but there were shortcomings, which this project seeks to remedy in order that computers and Internet access can be provided for families from home. These are the major obstacles to implementation and how this project proposes to overcome them:

1. We realized early on that formal training of prison inmates was necessary in view of the wide variety of computers, which are to be upgraded. This obstacle will be overcome through the generous participation of New Horizons Computer Learning Centers as a project partner. Ten inmates will receive A+ Certification training to

repair and upgrade computers, which will enable rapid turn around of computers and provide the volume of machines needed.

2. An organized approach must exist for transporting donated computers to the central repair and upgrade facility. This obstacle will be solved by the Department of Corrections through their in-kind contribution of transportation of computers from donor sites anywhere in South Carolina. The Department of Corrections will also transport upgraded machines to participating district training sites where they will be provided to parents as part of the end user training at the Family Technology Learning Centers.
3. A large volume of computers must be secured on an on-going basis throughout the project. Another of the project partners—South Carolina Educational Television Network, will facilitate this. As part of SCETV's in-kind contribution to this project, a series of public service radio and television commercials will be prepared and aired on public radio and television stations throughout the state. Since this capability exists in many other states through education radio and television facilities, another diffusion opportunity exists. By making it extremely easy for any business, government agency or individual to contribute a computer to this project through advertising and free pick up and delivery, these two obstacles can be overcome.
4. Since most family members participating in this project will be first time computer users, end user training is a major obstacle. We will overcome this hurdle by providing local training sessions for families at Family Technology Learning Centers at participating schools and district offices. Local training will be provided by Regional Technology Specialists from the Department of Education and furnished as an in-kind contribution to this project. Parents will be trained in basic computer literacy skills and be given long term loan of the computer on which they were trained to take to their homes after the training is completed.
5. Project coordination will be provided through employment of a project manager and clerical support to secure computers to be donated, scheduling of family training, scheduling facilities at schools and district offices and keeping records for the project, scheduling equipment pick up and delivery and follow up activities associated with project evaluation. We propose to provide a full time position dedicated to resolution of hardware, software and communications problems as they arise over the life of the project. Every effort will be made to reduce the need for technical support by providing preloaded software, easy back up and recovery through the use of SCETV's CD-ROM, screen lock down software (i.e. "Fortress" or "SecurePC") and pornography blocking software. Nonetheless, ongoing maintenance will be a problem that must be handled. We also will provide backup computers, which can be loaned to families while the original machine is repaired, when hardware problems do arise.

COMMUNITY INVOLVEMENT

Simply having large numbers of organizations involved in a project does not guarantee success. We have chosen to solicit, and have gained the commitment of strategic partners in this project. Most of these have already been mentioned. Summarized here are the partnerships and the contributions of each strategic partner with in-kind contributions.

1. School districts: The seven school districts will provide facilities at their schools for family training sessions for parents of children in these schools. Training will be provided at neighborhood schools because many parents do not have reliable transportation to distant sites. The districts can not provide matching funds or cash contributions because they are the most impoverished in the state.
2. New Horizons Computer Learning Centers: This company, which currently has the state contract for technical training for school district personnel through competitive bid will provide deeply discounted technical training for ten (10) Department of Corrections inmates. Fifty percent (50%) of the cost of this training is being provided by New Horizons Computer Learning Centers as an in-kind contribution to the project.
3. Info Avenue: This company, which currently provides Internet access for most government agencies in the state through competitive bid will provide an individual Internet access account for each family. As an in-kind contribution to the project, Info Avenue will contribute $10 per family per month toward the cost of Internet access from these rural areas. This will provide 200 hours of Internet access per month for each family for $15 per month, to be paid for by this project.
4. South Carolina Department of Corrections: This state agency will provide in-kind services on a statewide basis to pick up and deliver computers. They will also provide inmates for the program, supervision of the inmates, and a central repair facility. The S.C. Department of Corrections will also provide warehousing for all donated computers until they can be upgraded and loaned to families.
5. South Carolina Educational Television Network: SCETV will provide a CD-ROM with Internet access software for use in the training sessions for end users, and for use as back up and recovery with each computer loaned. SCETV will also provide as an in-kind contribution to the project the development and airing of radio and television public service announcement to solicit donations of computers and to advertise the project and disseminate results. Broadcast quality radio and television spots will also be made available to commercial stations statewide for public service announcements.
6. South Carolina Department of Education: The SDE will provide upgrade parts for the project, trainers for the Family Technology Learning Center training sessions through the use of 13 Regional Technology Specialists and administration of the project.
7. The University of South Carolina: USC will provide evaluation services for the project with an in-kind contribution of technical expertise in research design, data collection and statistical analysis (see Evaluation and Documentation below).
8. Finally, will families participate? In a pilot project in Allendale School District to improve family literacy using technology, 120 families enrolled immediately. There are 150 additional families in this one district that could not be accommodated and are waiting to get into the program. Families appear eager to participate in any project such as proposed here that will offer hope of upgrading skills and helping their children achieve in school.

EVALUATION AND DOCUMENTATION

This project will be implemented over a three-year period. In year one, the families in four school districts will be served. In year two, families in the remaining three districts will be served. The project will be expanded the third year to accommodate additional families in all seven districts. We anticipate that 700 families will be served in seven school districts as the project rolls out. With the decrease in computer parts prices, more families can be served, limited only by budget constraints.

Detailed records will be kept throughout the project in order to account for all computers, upgrade components, Internet access, family statistics (the number of family members using the computes and amount of time and nature of usage). In addition to these process evaluation statistics, which will be collected and reported each year, a formal experimental design and statistical analysis of student achievement over the three-year period will also be accomplished. Additionally, family demographics such as economic advancement, student drop out rates, student discipline and attendance will also be tracked. A significant portion of the budget has been set-aside for this data collection, analysis and reporting by the professional evaluation staff of the University of South Carolina and their generous in-kind contribution toward this project.

Since the project will be designed to accommodate family entry into the project several times during the year (as training sessions are scheduled at the Family Technology Learning Centers throughout the school year), and achievement test score data will be available for the same students throughout the project, we propose using a repeated measures Analysis of Variance design. Since different versions of the criterion measure (South Carolina “Palmetto Achievement Challenge Test”) will be used, the carryover effects, latent effects and order of learning effects can be controlled. We will be able to study and compare student achievement over time and achievement between students whose parents volunteered to participate with those who did not. Students’ families entering the program during the first two years will be analyzed.

Even after only one year we will be able to apply simple nonparametric statistical measures (i.e. Wilcoxon Sign Test) using PACT scores which were taken in the spring of 1999 and will be taken again this spring. Through constant monitoring we will be able to adjust procedures and optimize the statistical design each year of the project. By using the newly adopted Palmetto Achievement Challenge Test (PACT), mandated by state statute, consistent, valid and reliable measures can be assured. Family demographics will be tracked for families entering the program during the first two years and statistics concerning tangential benefits such as use of the computer for research at home, use of E-mail for communication with mentors, teachers and classmates will be collected.

Bibliography

Southern Technology Council, 1997; Making Technology Happen, P.O. Box 12293, Research Triangle Park, N.C. 27709, ISBN: 0-927364-06-9

The Masonboro Group, 1999; “Allendale County School District—Instructional and Management Audit”

Newburger, Eric C., “Computer Use in the United States—Population Characteristics”; U.S. Census Bureau, U.S. Department of Commerce, Economics and Statistics Administration, October 1997

South Carolina Department of Education, 1999; “Rankings of School Districts in South Carolina”

South Carolina department of Education, 1999; “South Carolina Performance Profiles—Demographic Information”